INTERNATIONAL SEARCH REPORT

International Application No
[redacted]T/RO2004/000012

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 G01N33/15 A61K49/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 G01N A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal, WPI Data, PAJ, BIOSIS, EMBASE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	SOMLYAI G ET AL: "THE BIOLOGICAL EFFECTS OF DEUTERIUM-DEPLETED WATER, A POSSIBLE NEW TOOL IN CANCER THERAPY" DEUTSCHE ZEITSCHRIFT FUER ONKOLOGIE, HEIDELBERG, DE, vol. 30, no. 4, 1998, pages 91-94, XP009006973 ISSN: 0931-0037 cited in the application page 92, left-hand column, paragraph 5 - page 93, left-hand column, paragraph 4	1,2
X	WO 95/18545 A (HYD KUTATO-FEJLESZTO KTF; SOMLYAI, GABOR) 13 July 1995 (1995-07-13) cited in the application page 3, line 30 - page 4, line 18	1,2
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[X] Further documents are listed in the continuation of box C.

[X] Patent family members are listed in annex.

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"A" document defining the general state of the art which is not considered to be of particular relevance

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"P" document published prior to the international filing date but later than the priority date claimed

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Date of the actual completion of the international search	Date of mailing of the international search report
17 February 2005	28/02/2005

Name and mailing address of the ISA	Authorized officer
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INTERNATIONAL SEARCH REPORT

International Application No
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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 855 921 A (SOMLYAI ET AL) 5 January 1999 (1999-01-05) column 4, line 54 - column 6, line 63	1,2

International Application No
[redacted]/RO2004/000012

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AMENDED CLAIMS

[Received by the International Bureau on 26 April 2005 (26.04.05): original claims 1-2 replaced by amended claims 1-2 (2 pages)]

1. The method for in vivo determination on tested animals of the efficient concentration of Deuterium Depleted Water for cancer therapy **is characterized by the fact that** it provides Deuterium Depleted Water administering to tested animals before and after tumor grafting with animal grafts and it takes the following steps:

A) Deuterium Depleted Water administering to Wistar outbred rats by diet, with concentration less than 100 ppm, over a period of 60 days, simultaneously to dieting a control group of animals with water having 150 ppm content of Deuterium (tap water),over the same period of time..

B) Viability determination for the tumor cells to be grafted, using tripan blue

C) Grafting of the animals in the experimental group and the control animals in the 60th day, subcutaneous, with 1×10^7 malign tumor cells in 0,5 ml normal saline solution of 256 Walker sarcoma (the solid tumor) and T8 Guérin lymphotropic epitelioma (solid tumor), both of them having cells with a viability over 98%.

D) Continuously and long-term administering, by diet, of Deuterium Depleted Water, with concentration less than 100 ppm deuterium, period over which the followings are to be done:

   a. Starting with the 4-th post-graft day the tumor nodules measurement and examination is performed on each 2-3 days;
   b. Monitoring of animals physiological condition by weekly weighing, monitoring their food and water consumption, notifying the toxic condition occurrence
   c. After 60 days, when all the animals in control group aredead, preferable between the 160th and 200th day after graft, the effect produced by administering of established concentration of Deuterium Depleted Water is observe don the surviving animals homeostasis from experimental groups, respectively the way how humoral immune system and cellular immune system of these animals has been influenced, by performing of a series of examination on immunological condition of the animals, namely: leucocytes formula test to establish lymphocytes and blastic cells levels; hematopoietic marrow tests to establish the plasmocytes and NK-K cells levels.

E) Determination of efficient concentration of Deuterium Depleted Water for tested surviving animals depending on new homeostasis occurrence, and on the results obtained related to tumoral regression, as well as to cancer curing.

2. Method, as per claim no. 1, **characterized by the fact** that it determines the 60 ppm Deuterium Depleted Water as the concentration that is the most efficient forcancer therapy and prophylaxis by continuously and long-term administering of this type of water as a daily diet.

Technical issue the invention is solving is the establishing of a method for experimental determination in vivo of an efficient Deuterium content in water, in order to obtain optimum results in cancer therapy on rats.

According to the invention, the method consist in Deuterium Deplcted Water administering before and after tumor grafting on animals, following the stages below:

A) Deuterium Depleted Water administering to Wistar outbred rats by diet, with concentration less than 100 ppm, over a period of 60 days, simultaneously to dieting a control group of animals with water having 150 ppm content of Deuterium (tap water), over the same period of time
B) Viability determination for the tumor cells to be grafted, using tripan blue
C) Grafting of the animals in the experimental group and the control animals in the 60th day, subcutaneous, with 1 x 10^7 malign tumor cells in 0,5 ml normal saline solution of 256 Walker sarcoma (the solid tumor) and T8 Guérin lymphotropic epitelioma (solid tumor), both of them having cells with a viability over 98%.
D) Continuously and long-term administering, by diet, of Deuterium Depleted Water, with concentration less than 100 ppm deuterium, period over which the followings are to be done:
    a) Starting with the 4-th post-graft day the tumor nodules measurement and examination is performed on each 2-3 days;
    b) Monitoring of animals physiological condition by weekly weighing, monitoring their food and water consumption, notifying the toxic condition occurrence
    c) After 60 days, when all the animals in control group aredead, preferable between the 160th and 200th day after graft, the effect produced by administering of established concentration of Deuterium Depleted Water is observe don the surviving animals homeostasis from experimental groups, respectively the way how humoral immune system and cellular immune system of these animals has been influenced, by performing of a series of examination on immunological condition of the animals, namely: leucocytes formula test to establish lymphocytes and blastic cells levels; hematopoietic marrow tests to establish the plasmocytes and NK-K cells levels.
E) Determination of efficient concentration of Deuterium Depleted Water for tested surviving animals depending on new homeostasis occurrence, and on the results obtained related to tumoral regression, as well as to cancer curing.